LISTING OF CLAIMS

1. (Currently amended) A method of controlling an electric machine, the electric machine comprising a rotor and a stator, the method comprising:

providing an electric machine comprising

a first speed circuit comprising a first main winding, an auxiliary winding, and a switch connected in series with the auxiliary winding, and

a second speed circuit comprising a second main winding;

providing an operational power to one of the first speed circuit and the second speed circuit; ~~and~~

detecting which of the first speed circuit and the second speed circuit is receiving the operational power,

wherein detecting which of the first speed circuit and the second speed circuit is receiving the operational power comprises at least one of detecting an existence of the operational power, and detecting an absence of the operational power, and

wherein detecting an existence of the operational power comprises detecting at least one of a current associated with the operational power, a voltage associated with the operational power, and a frequency associated with the operational power; and

controlling the switch to limit current through the auxiliary winding based at least in part on the provision of the operational power to the second speed circuit.

2. (Original) A method according to claim 1 and further comprising controlling the switch to allow current through the auxiliary winding based at least in part on the provision of the operational power to the first speed circuit.

3. (Original) A method according to claim 1 wherein the first speed circuit comprises an auxiliary circuit, wherein the auxiliary circuit comprises the auxiliary winding and a capacitor connected in series with the auxiliary winding, wherein controlling the switch to limit current through the auxiliary winding comprises controlling the switch to limit current through the auxiliary winding and the capacitor based at least in part on the provision of the operational power to the second speed circuit.

4. (Cancelled).

5. (Cancelled).

6. (Cancelled).

7. (Original) A method according to claim 1 wherein detecting a current associated with the operational power comprises detecting a peak current associated with the operational power.

8. (Currently amended) A method according to claim 1 wherein the switch comprises a solid-state switch.

9. (Currently amended) An electric machine assembly comprising:

a shaft;

a rotor connected to the shaft for rotation with the shaft;

a first speed circuit comprising a first main circuit, a first auxiliary circuit, and a switch connected in series with the first auxiliary circuit, wherein the first speed circuit is of a permanent split capacitor design, the first speed circuit being configured to cause the rotor and shaft to rotate at a first speed when an operational power is provided to the first speed circuit;

a second speed circuit comprising a second main circuit and a second auxiliary circuit, wherein the second speed circuit is of a permanent split capacitor design, the second speed circuit being configured to cause the rotor and shaft to rotate at a second speed when an operational power is provided to the second speed circuit; and

a controller comprising a current sensor coupled in circuit with the first speed circuit to sense a current of the first speed circuit, the controller being configured to control operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit, the controller controlling the switch to limit current through the switch when the second speed circuit receives the operational power, wherein controlling operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit is based at least in part on an output of the current sensor.

10. (Cancelled).

11. (Cancelled).

12. (Currently amended) An electric machine ~~according to claim 10~~ comprising:

a shaft;

a rotor connected to the shaft for rotation with the shaft;

a first speed circuit comprising a first main circuit, a first auxiliary circuit, and a switch connected in series with the first auxiliary circuit, wherein the first speed circuit is of a permanent split capacitor design, the first speed circuit being configured to cause the rotor and shaft to rotate at a first speed when an operational power is provided to the first speed circuit;

a second speed circuit comprising a second main circuit and a second auxiliary circuit, wherein the second speed circuit is of a permanent split capacitor design, the second speed circuit being configured to cause the rotor and shaft to rotate at a second speed when an operational power is provided to the second speed circuit;

a controller configured to control operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit, the controller controlling the switch to limit current through the switch when the second speed circuit receives the operational power; and

wherein the controller comprises a direct current power supply and a startup lockout circuit, and wherein the startup lockout circuit is configured to prevent the controller from controlling operation of the switch until the direct current power supply is adequately charged to power components of the controller.

13. (Currently amended) An electric machine according to ~~claim 10~~ claim 9 wherein the switch comprises a solid-state switch, and wherein the controller utilizes gating pulses to control operation of the solid-state switch.

14. (Original) An electric machine according to claim 13 wherein the switch comprises a triac.

15. (Currently amended) An electric machine ~~according to claim 13~~ comprising:

a shaft;

a rotor connected to the shaft for rotation with the shaft;

a first speed circuit comprising a first main circuit, a first auxiliary circuit, and a switch connected in series with the first auxiliary circuit, wherein the first speed circuit is of a permanent split capacitor design, the first speed circuit being configured to cause the rotor and shaft to rotate at a first speed when an operational power is provided to the first speed circuit;

a second speed circuit comprising a second main circuit and a second auxiliary circuit, wherein the second speed circuit is of a permanent split capacitor design, the second speed circuit being configured to cause the rotor and shaft to rotate at a second speed when an operational power is provided to the second speed circuit;

a controller configured to control operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit, the controller controlling the switch to limit current through the switch when the second speed circuit receives the operational power;

wherein the switch comprises a solid-state switch, and wherein the controller utilizes gating pulses to control operation of the solid-state switch; and

wherein the controller comprises a voltage sense circuit configured to sense a voltage across the solid-state switch and generate an output indicative of when the solid-state switch has turned off, and wherein the output is utilized to generate the gating pulses.

15. (Currently amended) An electric machine ~~according to claim 13~~ comprising:

a shaft;

a rotor connected to the shaft for rotation with the shaft;

a first speed circuit comprising a first main circuit, a first auxiliary circuit, and a switch connected in series with the first auxiliary circuit, the first speed circuit being configured to cause the rotor and shaft to rotate at a first speed when an operational power is provided to the first speed circuit;

a second speed circuit comprising a second main circuit and a second auxiliary circuit, the second speed circuit being configured to cause the rotor and shaft to rotate at a second speed when an operational power is provided to the second speed circuit;

a controller configured to control operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit, the controller controlling the switch to limit current through the switch when the second speed circuit receives the operational power; and

wherein the controller comprises a voltage sense circuit configured to sense a voltage across the solid-state switch and generate an output indicative of when the solid-state switch has turned off, and wherein the output is utilized to generate the gating pulses.

16. (Original) An electric machine according to claim 15 wherein the output of the voltage sense circuit is ignored during the delivery of a gating pulse to the solid-state switch.

17. (Currently amended) An electric machine ~~according to claim 10~~ comprising:

a shaft;

a rotor connected to the shaft for rotation with the shaft;

a first speed circuit comprising a first main circuit, a first auxiliary circuit, and a switch connected in series with the first auxiliary circuit, the first speed circuit being configured to cause the rotor and shaft to rotate at a first speed when an operational power is provided to the first speed circuit;

a second speed circuit comprising a second main circuit and a second auxiliary circuit, the second speed circuit being configured to cause the rotor and shaft to rotate at a second speed when an operational power is provided to the second speed circuit;

a controller configured to control operation of the switch based at least in part on whether an operational power is provided to the first speed circuit or the second speed circuit, the controller controlling the switch to limit current through the switch when the second speed circuit receives the operational power; and

wherein the controller comprises a plurality of logic gates utilized to control operation of the switch based at least in part on at least one of detection of a direct current power level, detection of a peak current, generation of a control signal to turn on the switch, and detection of an inception of voltage after a zero-crossing of the voltage across the switch~~, and combinations thereof~~.

18. (Original) A method of controlling an electric machine, the electric machine comprising a rotor and a stator, the method comprising:

providing an electric machine comprising

a first speed circuit of a permanent split capacitor design, the first speed circuit comprising

a first main circuit comprising a first main winding,

a first auxiliary circuit comprising a first phase winding and a first capacitor connected in series with the first phase winding, and

a solid-state switch connected in series with the auxiliary circuit,

a second speed circuit of a permanent split capacitor design, the second speed circuit comprising

a second main circuit comprising a second main winding, and

a second auxiliary circuit comprising a second phase winding and a second capacitor connected in series with the second phase winding,

providing an operational power to one of the first speed circuit and the second speed circuit; ~~and~~

detecting a peak current of the first speed circuit to determine whether the first speed circuit or the second speed circuit is receiving the operational power;

controlling the solid-state switch to allow current through the auxiliary winding based at least in part on the provision of the operational power to the first speed circuit.

19. (Cancelled).

20. (Original) A method according to claim 18 and further comprising controlling the solid-state switch to limit current through the auxiliary winding based at least in part on the provision of the operational power to the second speed circuit.

21. (New) A method according to claim 1 wherein detecting an absence of the operational power comprises detecting an absence of at least one of a current associated with the operational power, a voltage associated with the operational power, a frequency associated with the operational power, and a combination of detecting an absence of a current associated with the

operational power, a voltage associated with the operational power, and a frequency associated with the operational power.

22. (New) A method as set forth in claim 21 wherein detecting an absence of the operational power comprises detecting an absence of a current associated with the operational power.

23. (New) A method as set forth in claim 21 wherein detecting an absence of the operational power comprises detecting an absence of a voltage associated with the operational power.

24. (New) A method as set forth in claim 21 wherein detecting an absence of the operational power comprises detecting an absence of a frequency associated with the operational power.

25. (New) A method as set forth in claim 1 wherein detecting an existence of the operational power comprises detecting a current associated with the operational power.

26. (New) A method as set forth in claim 1 wherein detecting an existence of the operational power comprises detecting a voltage associated with the operational power.

27. (New) A method as set forth in claim 1 wherein detecting an existence of the operational power comprises detecting a frequency associated with the operational power.